Keiichi Taketsuna

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Education

University of Pennsylvania Philadelphia, PA
Bachelor of Arts in Computer Science *Expected Graduation May 2028*
Related Coursework: Object-oriented Programming, Data Types and Data Representation, Abstraction, Interfaces, and Modularity, Test-driven Development, Programming Patterns, Functional Programming

Experience

Software Engineer June 2024 – Present
Borderless Japan Corporation *Tokyo, JP*
- Developed and maintained a full-stack website (https://wowfull.jp/) using WordPress, customizing themes and plugins to meet specific business requirements.
- Integrated various WordPress plugins such as Contact Form 7, Custom Facebook Feed, Twitter Feed, and Instagram Feed to manage social media content, forms, and user interactions.
- Handled media uploads and database interactions via WordPress MySQL architecture, ensuring optimized image loading and content management as well as managing users personal data

Data Science Researcher July 2023 – Feb. 2024
University of California Irvine *Irvine, CA*
- Developed a comprehensive model with my professor in MATLAB to simulate and predict atmospheric chemical reactions, focusing on gas-phase interactions and surface-layer chemistry
- Implemented algorithms to process large datasets and optimize the model's handling of time-series data, improving computational efficiency
- Utilized ODE solvers and global optimization algorithms to solve differential equations and optimize models

LSTM Modelling Research Assistant July 2022 – Nov. 2022
Tokyo University of Agriculture and Technology *Tokyo, JP*
- Developed LSTM model for robot detection, leveraging accelerometer data across multiple axes to classify actions
- Optimized the model for performance on GPU-accelerated hardware, employing Adam for optimization and cross-entropy loss for classification, leading to real-time improvements and robust accuracy validation
- Conducted Visual SLAM for agricultural robots and drones, integrating sensor code and SLAM algorithms to enhance autonomous navigation capabilities in real-world environments

Projects

Fusion Audio | *Swift, Node.js, Restful API, PostgreSQL, Express.js* May 2024 – Present
- Developing a full-stack iOS app enabling users to write reviews and listen to audiobooks from various platforms, including proprietary content with integrated music functionality
- Implemented JWT-based authentication via a Node.js backend, ensuring secure user sessions and API requests, with SQL database integration for efficient user data management
- Building scalable backend services using Express.js, SQL, and RESTful APIs to support user profiles, media preferences, and content recommendations
- Managing contracts with 4 authors, and coordinating with a co-developer overseeing audiobook production

Recommendation System | *Streamlit, Python, TMDb API, React, Cosine Similarity* October 2024
- Developed a movie recommendation web application using leveraging Item-based Collaborative Filtering with Cosine Similarity to provide personalized movie suggestions which later implementing in Fusion Audio
- Integrated The Movie Database (TMDb) API to dynamically fetch and display movie posters, enhancing the visual appeal and user experience

Technical Skills

Languages: Java, Python, Swift, SQL (Postgres), JavaScript, HTML/CSS, Typescript, Matlab
Frameworks: React, Node.js, WordPress, FastAPI, SwiftUI, PyTorch
Developer Tools: Git, Docker, Postman, Google Cloud Platform, VS Code
Libraries: pandas, NumPy, Matplotlib